

REMARKS

I. Claim Amendments

Claim 4 is amended to depend from claim 2. No new matter is presented.

Accordingly, claims 1-20 will be all of the claims pending in the application.

II. Response to Claim Rejections Under 35 U.S.C. § 112

Claim 4 is rejected under 35 U.S.C. § 112, 2nd paragraph, as allegedly being indefinite for failing to provide antecedent basis for the recitation of "the UV curable binder" in claim 4.

Claim 4 is amended to depend from claim 2 as suggested by the Examiner, thereby obviating the rejection. Accordingly, Applicants respectfully request withdrawal of the rejection.

III. Response to Claim Rejections Under 35 U.S.C. § 103

Claims 1-10 and 12-20 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Brodtkin et al (U.S. Patent No. 6,322,728) and further in view of Halloran et al (U.S. Patent No. 6,117,612).

Claim 11 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Brodtkin et al in view of Halloran et al, as applied to claims 1-10 and 12-20 and further in view of Maitland (UV Printing/UV Chemistries).

Applicants respectfully traverse the rejection.

The Examiner recognizes that Brodtkin et al does not specifically teach the relationship the refractive index of the powder material n_1 and the refractive index of the binding agent n_2 recited in claims 1 and 2 but relies on Halloran for the teaching that the cure depth of a ceramic SLA resin is dependent upon the refractive indices of the ceramic powder and the medium.

Halloran does not remedy the deficiencies of Brodtkin. Halloran describes the difference in refractive index as being small between ceramic (solid) and an aqueous medium (liquid). On the other hand, the present invention relates to an important technique for producing a transparent three-dimensionally shaped object by adjusting the difference in refractive index between a powder material (solid) (n_1) and a binding agent (solid) (n_2) into a range of -0.1 to +0.1. In addition, considering the invention of Halloran in view of the common technical knowledge of the person skilled in the art, the refractive index of an aqueous medium would change at the stage when the aqueous medium is solidified. Thus, the refractive index of the solidified aqueous medium becomes different from that of the ceramic. For at least this reason, the present invention is distinguished over Brodtkin et al in view of Halloran, and Maitland does not remedy the deficiencies of Brodtkin et al and Halloran.

Further, Applicants submit that the present invention provides an unexpectedly superior effect in obtaining a transparent three-dimensionally shaped object. In this regard, Applicants submit that Halloran does not disclose, teach or suggest a transparent three-dimensionally shaped object or recognize the advantageous effects of the present invention.

Accordingly, the present invention is not rendered obvious over the art of record. Applicants respectfully request withdrawal of the rejections.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Amendment under 37 C.F.R. § 1.111
U.S. App. Ser. No. 10/809,832

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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